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# **Enabling Ableton**

## **Facilitating Music Technology in Secondary Music Education through Discholars**



**Discholars**

**An exegesis presented in partial fulfilment of the requirements of the degree of**

**Master of Creative Enterprise**

**At Massey University, Wellington, New Zealand**

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## **Abstract**

Discholars is a company designed to enhance and modernise music education in New Zealand by offering tuition in digital and electronic instruments. It was founded in response to the ubiquity of music technology in the music industry and the opportunity that provides for music education.

The creative focus of this research has been to build a curriculum to teach music using a digital audio workstation (DAW) as the primary instrument. Through a series of structured lesson plans, this curriculum teaches musical concepts and production techniques. It incorporates modern research in music pedagogy and is designed to align with the New Zealand curriculum. Discholars' mission is to empower students to express themselves musically as a result of music technology tuition.





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## Introduction

In 2019, the New Zealand market for pre-tertiary musical instrument tuition holds few options for digital audio workstation (DAW) users. This contrasts with the music industry, where the DAW is ubiquitous as a creative tool for music composition, performance and improvisation (Eno, 2004; Hein, 2017; Humberstone, 2015; Yépez, 2016). It is likely that the majority of music that passes through a speaker or headphones has been treated by a DAW (Bell, 2015, pp. 44-45).

This project has sought to address this gap in the market by developing a curriculum to teach music using a DAW as the primary instrument. Through a series of structured lesson plans, this curriculum teaches musical concepts and production techniques. It incorporates modern practices in music pedagogy and is designed to align with the New Zealand curriculum. This curriculum forms the central component of the service Discholars provides as a business. See the Discholars Business Plan for more detail on its enterprise structure.

The Discholars curriculum incorporates both formal and informal music education pedagogy. Formal music education is derived from Western classical music pedagogy; in practice, it favours learning where knowledge is transferred from teacher to student over learning that the student acquires independently. Simple concepts are learnt before complex ones, and the musical activities of listening, performing, composing and improvising become siloed over time (Green, 2001).

In contrast, informal music education favours students independently acquiring knowledge. There is no predetermined order to learn concepts in, and musical activities are integrated together into the learning process (Green, 2001). In 2019, the New Zealand music education system uses pedagogy from both.

There are few existing examples of in-person DAW tuition available in New Zealand. Of the 277 instrument teachers based in New Zealand's main centres (Auckland, Tauranga, Hamilton, Wellington, Christchurch, and Dunedin) and listed on the New Zealand Music Teachers Online website, only seven offer 'electronic dance music' tuition (New Zealand Music Teachers Online, Accessed 26 September 2019). Internationally, schools such as Dubspot,<sup>1</sup> Beatlab Academy,<sup>2</sup> Noise 212,<sup>3</sup> Point Blank Music School,<sup>4</sup> and Live School<sup>5</sup> deliver DAW-based music tuition in physical locations as well as offering courses or tutorials online. Similarly, websites such as Youtube,<sup>6</sup> Lynda,<sup>7</sup> Kadenze,<sup>8</sup> EDMProd,<sup>9</sup> Coursera,<sup>10</sup> Melodics,<sup>11</sup> NoiseLab,<sup>12</sup> Producertech<sup>13</sup> and Masterclass<sup>14</sup> have many videos or online

<sup>1</sup> Dubspot, <http://www.dubspot.com/> Accessed: 26 September 2019

<sup>2</sup> Beatlab Academy, <https://beatlabacademy.com/> Accessed: 26 September 2019

<sup>3</sup> Noise 212, <https://www.noise212.com/home> Accessed: 26 September 2019

<sup>4</sup> Point Blank Music School, <https://www.pointblankmusicschool.com/> Accessed: 26 September 2019

<sup>5</sup> Live School, <https://liveschool.net/> Accessed: 26 September 2019

<sup>6</sup> YouTube, <https://www.youtube.com> Accessed: 26 September 2019

<sup>7</sup> Lynda, <https://www.lynda.com/DAWs-training-tutorials/21-0.html> Accessed: 26 September 2019

<sup>8</sup> Kadenze, <https://www.kadenze.com/courses/sound-production-in-ableton-live-for-musicians-and-artists-v/info> Accessed: 26 September 2019

<sup>9</sup> EDMProd, <https://www.edmprod.com/> Accessed: 26 September 2019

<sup>10</sup> Coursera, <https://www.classcentral.com/course/abletonlive-2988> Accessed: 26 September 2019

<sup>11</sup> Melodics, <https://melodics.com/> Accessed: 26 September 2019

<sup>12</sup> NoiseLab, <https://www.noiselab.io/> Accessed: 26 September 2019

<sup>13</sup> ProducerTech, <https://www.producertech.com/> Accessed: 26 September 2019

<sup>14</sup> Masterclass, <https://www.masterclass.com/classes/deadmau5-teaches-electronic-music-production> Accessed: 26 September 2019



courses that deliver tuition to DAW users.

The fact that Discholars offers lessons in person to New Zealanders sets it apart from these competitors. Learning in person creates the opportunity for students to develop a personal relationship with their teacher, as well as have their lessons reflect their interests and stage of development. This is particularly important for one of Discholars' target markets, high school students. An engaging teacher benefits a student's learning, as well as their confidence, motivation, and sense of belonging (Frymier and Houser, 2000; Committee on Increasing High School Students' Engagement and Motivation to Learn, 2004; Meyer, Weir, McClure, Walkey and McKenzie, 2009).

This exegesis will examine the design and implementation of the Discholars curriculum. First, it will outline the method that was used and discuss the considerations that informed this method choice. Then it will provide a review of the literature that informed the curriculum design. Next, this exegesis will detail the process used to design, build and test the curriculum. Finally, it will offer a conclusion on its findings from the research.

## Method

This project employed an educational action research method to develop a curriculum for Discholars. Action research uses a practice-based approach involving cycles of iteration and review.

Two aspects made action research the most beneficial method for this project. First, because researching in cycles of iteration and review enabled a level of adaptability that was suitable for a curriculum development project that sat within an enterprise context. Second, because, as a person with little education experience, undertaking cycles of iteration and review enabled me to reflect, adapt and evolve as an educator and curricula developer.

Other methods were considered, but deemed unsuitable in their own ways. Along with action research, Newby (2014) lists the dominant methodologies in educational research as evaluation, case study and ethnography. The evaluation method would have restricted my opportunities to explore the subject and make changes quickly. The case study method may have been more appropriate if I had chosen to base the curriculum on existing examples, however as previously noted, insufficient examples exist in New Zealand. Ethnography, meanwhile, was inappropriate because this research's purpose was primarily focused on curriculum development, not people.

I completed nine cycles of the action research method. As a result, I created a sample of nine lessons split into two modules, as well as two individual workshops. The first cycle was defined by a transition from teaching electronic

instruments as the primary instrument to teaching the DAW. First, I created a ten-week lesson structure focusing on rhythm; this structure was designed with physical electronic instruments in mind. I then pivoted to writing lessons with the DAW as the primary instrument. This resulted in creating a module comprising five lesson plans to focus on four musical layers: drums, bass, chords, melody, and one lesson combining these layers as a whole.

The real-life application of this module informed cycles two through six. The seventh cycle featured the design of Discholars' workshops. After teaching each lesson and workshop I reviewed and made changes to it and updated the following lessons. I then used these learnings from module one in my eighth cycle. This cycle featured a second module of four lessons that explore in more detail the layers featured in module one.

The ninth and final cycle featured the presentation of a workshop delivered at the Music Educators New Zealand Aotearoa (MENZA) national conference, and the peer review I received from teachers in attendance. After the final cycle, I was confident that Discholars' curriculum could positively enhance the music education offered in New Zealand.

Designing a curriculum of structured lesson plans sits slightly at odds with the intention of some applications of action research that focus on "curriculum as a set of principles [...] to be trialled in practice by teachers who were seen as researchers in a practice setting" (Noffke and Brennan, 2014). This is because Discholars plans to hire part-time teachers with specialised skills in using a DAW,



rather than teachers by profession. This work is likely to be supplementary to other activities in the lives of Discholars' teachers, and for that reason it would suit them to have some guidance in their teaching. The curriculum also ensures a strong pedagogical approach is present even when the teachers themselves are beginners.

One of the acknowledged drawbacks of action research is the potential for observer bias to develop (Newby, 2014; Noffke and Brennan, 2014). To ameliorate this, I involved other people in the research. I consulted with both my supervisor and industry mentor, and I taught the lessons in the real world as a means for determining areas for improvement.

Applying this method enabled the development of the Discholars curriculum. As a result, the curriculum became a defining feature of the service Discholars delivers. It serves a purpose for DAW teachers by reducing their barrier to entry, for high school teachers by supporting their professional development as well as the music education they already provide, and for high school students, and their parents, by ensuring a strong pedagogical approach is applied to each lesson taught.

## **Ableton Live**

The Discholars curriculum was created using Ableton Live as the teaching platform. The decision to use Ableton Live was informed by three factors. Firstly, its popularity as the most widely used DAW worldwide (Butler, 2014, pp.19) makes it an appropriate choice. Second, Ableton Live's software reflects a physical

instrument in the interactivity that it enables between user and software, and its functionality that enables live performance (Bell, 2018; Butler, 2014; Jordà, 2007; Manzo and Kuhn, 2015). It is important to note that this decision was made in the context of my first action research cycle where I considered creating a curriculum for physical electronic instruments.

Third, the design of Ableton Live's Session View, which enables users to trigger clips of sound independent of chronological order, creates multiple avenues into musical creativity because of how it "facilitates nonsequential, extemporaneous navigation" (Butler, 2014, pp.80). This layout encourages the user to think about music creation in unique ways.

Although this curriculum was developed for Ableton Live, the principles and exercises within the Discholars curriculum can be applied to any digital audio workstation.

## **Ethics**

I conducted five lessons with a 12-year old female student as part of implementing the research method. In order to do so, I gained an ethics clearance (See Appendix A) and sourced my clear criminal conviction record from the New Zealand Police (See Appendix B). It is important that an adolescent's involvement in research is treated with care. For this reason, I decided to mimic a real-life private tuition environment as much as possible. I gained permission to teach from both the parent and student (See Appendix D), and verbally acknowledged that the student could stop the lesson at any time. I deliberately chose not to require the student to

complete any questionnaires to ensure an uninhibited learning environment from which to gauge their genuine responses to the content. For each lesson I reflected on the time spent on tasks, where too short a time signified minimal engagement with a topic and too long signified that the content is too complex, and whether the student had adopted the skills taught by the completion of the module.

The next chapter contextualises the Discholars curriculum in the context of New Zealand's pre-tertiary curriculum and the role of music technology in conceptions of music literacy.

## **Existing Education Methods and New Musical Literacies**

The New Zealand music curriculum incorporates formal and informal music learning principles, and the Discholars curriculum reflects this in the context of music technology. Understanding how music technology relates to music literacy was important for this curriculum design.

### **New Zealand Music Education**

The Discholars curriculum was designed to align with the New Zealand music curriculum from a music technology perspective. Music was added to the New Zealand curriculum as a subject in 1945. Its pedagogy was based upon the United Kingdom's model at that time, which incorporated formal music education principles. These principles see concepts learnt in a hierarchical order, a focus on Western classical music, and teaching that favoured learning where knowledge was transferred from teacher to student (McPhail, 2012; McPhail, 2018).

In the 1990s, additions were made to the New Zealand curriculum as a result of teachers seeking to make music learning more accessible and relevant. A greater emphasis was placed on students attaining musical knowledge by acquisition, in addition to attaining knowledge by transfer from their teacher. Music performance and composition were added to the music curriculum alongside a focus on popular and non-Western music (McPhail, 2012; McPhail, 2018).

Formal and informal music learning principles co-existing in curricula is known as a pluralistic approach to education (Humberstone, 2017). With regard to approaches to learning, these are the terms used in this exegesis. They can be

considered in a similar vein to other terms describing approaches to learning, such as behaviourist/constructivist, or teacher-centred/learner-centred.

The principle of attaining knowledge through acquisition was exemplified in a set of twenty-first century learning principles published by the Ministry of Education in 2012 (See Table 1). These principles share similarities with the informal music learning principles identified by Lucy Green (2001) in her book *How Popular Musicians Learn*:

Learning Principles	Informal music learning practices within the school context (Lucy Green). Five underlying principles:	Ministry of Education report (Rachel Bolstad et al.) – learning principles:
1	Student choice in selection of initial learning material	Personalised Learning
2	Learning by ear rather than reading music	Equity, Diversity, and Inclusivity
3	Learning and self-teaching instruments in friendship groups	Using knowledge to develop learning capacity
4	No predetermined sequence of skill development within tasks (learning may appear unstructured and haphazard)	Rethinking the roles of teachers and learners
5	Integration of listening, performing, improvising, and composing into holistic student-directed activities	A culture of continuous learning for teachers and educational leaders
6		Partnerships and Relationships

Table 1: Learning Principles

These principles are still employed today (McPhail, 2018). They were used as a basis for the design of the Discholars curriculum, with some slight changes; these are highlighted under Implementation.

The changes to the New Zealand curriculum in the 1990s were made in the context of the decentralisation of the education sector. The resulting curriculum, published in 2007, prescribes what generic outcome statements students need to attain, but not how to attain them. This leads to teachers devising and implementing their own learning materials specifically for their students. The effectiveness of this teaching is then measured and analysed against the generic outcome statements. The teacher is thus placed in a position between seeking to offer student-centred education and meeting managerial demands (McPhail, Thorpe and Wise, 2018, pp. 5-8). In 2019, New Zealand secondary teachers resorted to strike action in response to workload concerns (Radio New Zealand, 2019).

This environment is problematic. It leaves little room for teacher innovation and makes staying abreast of trends difficult; an exercise particularly important for music teachers considering the relatively rapid change the music industry has undertaken in the last thirty years. To embrace innovations in technology, teachers need to be well-resourced and supported with professional development and technical support (Bauer, 2014; Trucano, 2010). This application is as important as the supply. Bauer notes the study of Tamim, Bernard, Borokhovski, Abrami, and

Schmid (2011), which found that when appropriately applied and utilised, the use of technology can lead to small to moderate gains in student learning.

Beyond student learning, the use of music technology is important because it exposes teachers to the student's perspective and their relationship to music. Technology is a regular component of our daily lives in 2019, and generations share the responsibility of creating and learning the language associated with it (Humberstone, 2017). In doing so, the process exposes the teacher to how students describe concepts. At the same time, students understand that music is more than that which can be measured; that it has an emotional and physical quality. Appreciating the student's perspective in the music world validates their place within it (Humberstone, 2017; Rose and Countryman, 2013).

As it stands, the music technology assessment standards enable the use of music technology in the New Zealand music curriculum (New Zealand Qualifications Authority, 2015). It appears, from communication with music teachers both at the 2019 MENZA conference and on the online forum for New Zealand music teachers called Musicnet, that students are using music technology but teachers are not confident with it themselves. Some also commented that their student's work using music technology is not always reflective of their creative intention. The Discholars curriculum offers insight into how teachers can assist students' work using music technology, and how to assess music technology standards. It does so based on understanding music literacy in the context of music technology.

## Musical Literacy

Music learners interact with music in numerous ways. Jay Dorfman (2017) puts forth a definition of musical literacy that reflects this:

*“Music literacy implies that our students are able to function in musical settings by performing, responding to, or creating music, and that they can understand the elements of those kinds of involvement in developmentally appropriate ways”* (Dorfman, 2017, pp. 401).

Traditionally the idea of musical literacy has been associated with understanding the elements of music theory (Dorfman, 2017; Freedman, 2017). Dorfman’s definition acknowledges how the emergence of recording and sequencing technology has added new concepts for learners to master. For example, learning how to apply the MIDI grid, or in the case of the music technology stream of national standards, learning the technical aspects required to facilitate musical performance (New Zealand Qualifications Authority, 2015).

Barbara Freedman (2017) advocates for the digital audio workstation’s contribution to musical literacy, but she fails to grasp that it is a compositional tool like any other (Eno, 2004; Hein, 2017; Yépez, 2016). Freedman acknowledges this when referring to tools built into the DAW, such as an arpeggiator, but does not go far enough with her observation.



By name, the digital audio workstation is a representation of the audio workstation that is the recording studio. The recording studio undertook the transformation from representative to compositional tool before the DAW was invented. Approaching the DAW as compositional tool contributes more to the concept of musical literacy than if it were considered a mere representative tool (Eno, 2004; Hein, 2017).

### Editing

A key skill for using a DAW is editing. Due to the producer's ability to manipulate recordings in the DAW, editing becomes as important a skill to fulfilling a creative vision as a performance is. There are many skills that fall within the scope of editing, for example: manipulating audio files, crafting MIDI, panning, automation, compression, modulation, equalisation, mixing, and adjusting settings for a multitude of parameters. A producer may replicate sounds they have heard but, as a result of the editing process, they come to take creative ownership over the new sounds created (Hein, 2017).

### Tinkering and Attentive Listening

Other key DAW skills are tinkering and attentive listening. Neither of these skills are unique to the DAW (Green, 2001; Humberstone, 2015) but rather they become emphasised because of it. Tinkering is a form of problem solving that uses trial and error to make incremental changes to a piece (Bell, 2018). Attentive listening becomes an important skill to help identify the differences in each tinkered iteration.

Attentive listening is listening with a “particular aim, or purpose, of learning something in order to put it to use in some way after the listening experience is over” (Green, 2001, pp. 23-4).<sup>15</sup> With regards to the DAW, this practice is slightly different because the producer is able to use what they have learnt from attentive listening *while* the listening experience is still taking place. It is important to note that Green’s research on this occasion was limited mainly to the practices of rock musicians.

Using attentive listening in music learning has numerous benefits. First, it forms part of the artist’s process of discovering their own voice or the essence of their artistic identity. This then makes their learning relevant to their lived experiences, and helps them to take ownership of it (Green, 2001). It also develops their understanding of this music which, in turn, goes “hand in hand with an enhanced appreciation of musical sensitivity or feel and a capacity to appreciate a wide variety of musical styles” (Green, 2001, pp. 201). Hence, tinkering and attentive listening are key components of the Discholars curriculum.

The skills of editing, tinkering and attentive listening come together on the website Ableton Learn. On this website, learners are taught musical elements using tools which allow them to edit, tinker and receive immediate feedback on their work. Alongside these tools are examples of existing songs which exemplify the

<sup>15</sup> This resembles the listening described by DeSantis (2015), who advocates for listening for the purpose of defining the sounds used to form a catalogue of attributes. The producer can then refer to these attributes when seeking inspiration for new sounds or as context for the sounds she is listening to.

concepts being taught. The resources on this website became an inspiration for the Discholars curriculum.

## **Summary**

Music education in New Zealand has undertaken significant change in the last 30 years. The result is a pluralistic approach to music education that involves incorporating approaches from both sides: music pedagogy of the past and the present or future, teacher- and learner-centred strategies, and formal and informal learning principles (Humberstone, 2017).

Music technology, however, has not been incorporated to the same degree. Changes to the education sector placed heavy workload on teachers which challenged their ability to stay abreast of technological innovations in music. In particular, the appropriate resourcing and application of technology remains a challenge. Discholars aims to address these issues through the use of its curriculum and pedagogy.

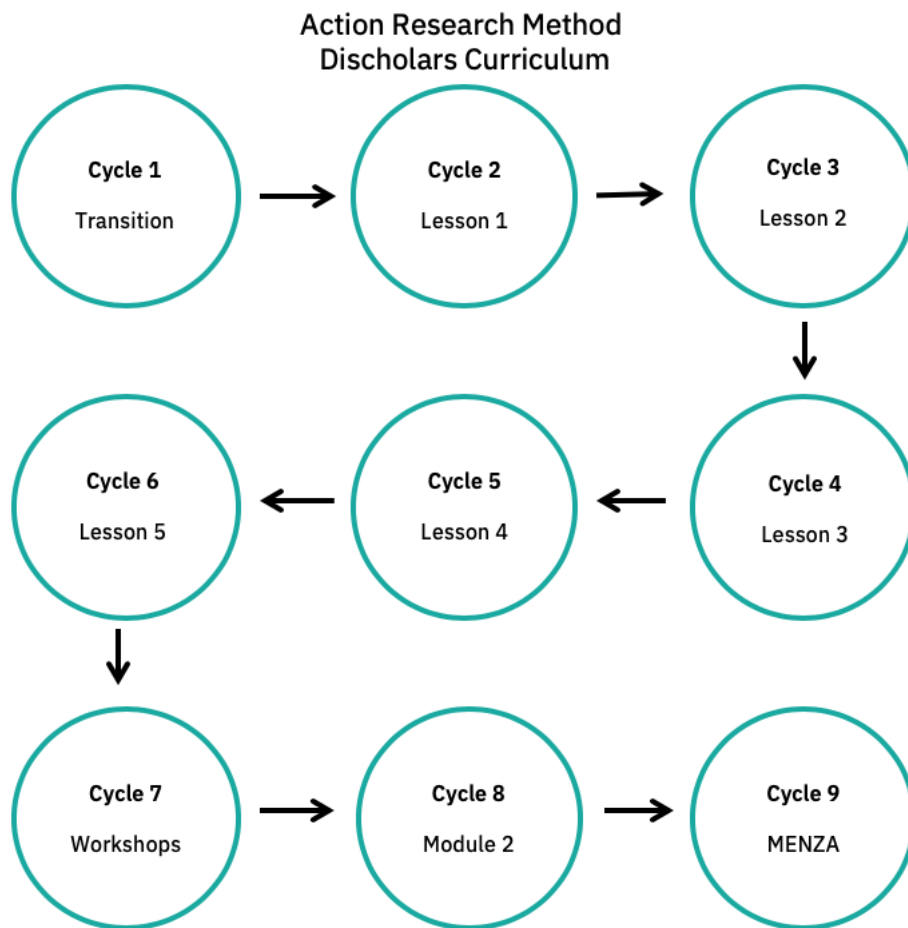
With the incorporation of technology, the definition of music literacy has expanded to include technology-specific skill sets. With regards to the digital audio workstation, skills such as editing, tinkering and attentive listening become emphasised. These skills, in use for creativity, have benefits outside of music too, in developing qualities of “co-operation, self-confidence, flexibility, risk-taking, and communication [...] and emotional literacy” (Barnes, 2001, pp. 98-99).

Editing, tinkering and attentive listening formed, in tandem with the learning principles already employed within the New Zealand curriculum, the foundation for

the Discholars curriculum. The next section details the implementation of the Discholars curriculum design, using the action research model described under Method.

## Implementation

Nine cycles of the action research method were completed in order to develop the Discholars curriculum (See Figure 1). As a result, a sample of the curriculum was created which includes nine lessons split into two modules, as well as two individual workshops. This section will detail the process undertaken within each cycle, with reference to the learning principles listed in Table 1, as well as the relevant literature.



*Figure 1: Action Research Method, Discholars Curriculum*

<b>Learning Principles</b>	<b>Informal music learning practices within the school context (Lucy Green). Five underlying principles:</b>	<b>Ministry of Education report (Rachel Bolstad et al.) – learning principles:</b>
<b>1</b>	Student choice in selection of initial learning material	Personalised Learning
<b>2</b>	Learning by ear rather than reading music	Equity, Diversity, and Inclusivity
<b>3</b>	Learning and self-teaching instruments in friendship groups	Using knowledge to develop learning capacity
<b>4</b>	No predetermined sequence of skill development within tasks (learning may appear unstructured and haphazard)	Rethinking the roles of teachers and learners
<b>5</b>	Integration of listening, performing, improvising, and composing into holistic student-directed activities	A culture of continuous learning for teachers and educational leaders
<b>6</b>		Partnerships and Relationships

*Table 1: Learning Principles*

Lessons from the Discholars curriculum are intended to be taught in a similar format to how New Zealand itinerant music teachers teach. Students spend 30 minutes per week with their itinerant music teacher learning their specific instrument of choice. For this reason, the Discholars lessons were designed in this vein.

## Cycle One

The first curriculum design cycle featured a transition from teaching electronic instruments as the primary instrument to teaching the DAW. The initial idea was to teach physical electronic instruments such as sequencers, CDJs, drum pads, drum machines, or synthesizers. This was based on the assumption that, for those new to electronic music, it might be easier to understand learning a physical instrument. With such an instrument in mind, an overarching ten-week lesson structure focusing on rhythm (See Table 2) was developed. These lessons were intended to span the length of one school term and be the first ten lessons a student would take.

		Practice = listening, analysis, technical skills	theory = literacy, understanding musical concepts	Experimentation includes improvisation
Week	Activity	Activity Type	Example	Principles
1	Make beats (basics)	practice	Student chooses genre of music and song. Teacher walks student through skills to copy the beat of said song	Green's Informal Learning principles (1/2/5), Rachel Bolstad et al (Publisher: NZ MinEd - 2012) principles (1/2)
2	Sounds that make up beats	Practice (listening)	Eg. Electronic bass drum vs real life bass drum. <u>Identify sounds</u> from student-chosen songs	Green (1/2), Bolstad (1/2/4)
3	rhythm (tempo)	theory	<u>Identifying emotions</u> evoked by various tempos (eg - fear, anticipation, sorrow...). Also, <u>recognising rhythms in their world</u> (walking rhythm vs skipping rhythm). <u>Identifying patterns</u>	Green (2), Bolstad (1/2/3/4)
4	Make a beat in one genre	Experimentation	Use a beat from a song they like in this composition	Green (1/2/3/5), Bolstad (1/2/4)
5	Rhythm (variations)	Theory	<u>Demonstrating varied rhythms. Combine two pulses. Combine tempos, one half the tempo of the other. Phrasing.</u>	Green (2), Bolstad (1/2/3)
6	Beats in different genres	Practice	<u>Student identifies variations in tempo, feel and sounds. Included are genres student may not know/like. Attentive listening</u>	Green (2), Bolstad (1/2/3)
7	Make a beat in second genre	Experimentation	Use a beat from a song they like in this composition	Green (1/2/3/5), Bolstad (1/2/4)



8	Rhythm 3	Theory	Student identifies offbeats, backphrasing, the pocket, syncopation	Green (2), Bolstad (1/2/3)
9	Re-make beat from either first or second genre	Experimentation	Song posted to community forum (Soundcloud/Spotify)	Green (1/2/3/5), Bolstad (1/2/4)
10	Review	Practice/Theory/Experimentation	Introduce to sampling	Depends on the individual learner

Table 2: Lesson Structure – Rhythm

Each week within this lesson structure incorporated one or more learning principles. The topics were intentionally ordered in a non-hierarchical fashion so as to require the student to problem solve solutions; it also incorporated student choice in numerous lessons.

There are many electronic instruments that are MIDI controllers controlling elements of the digital audio workstation, as opposed to being capable of independent sound emission. The decision to pivot from beginning with teaching electronic instruments to beginning with the DAW was made on the assumption that the skills learnt through the DAW and a controller can also be applied to standalone electronic instruments. For this reason, the research pivoted from beginning with teaching electronic instruments to beginning with the DAW. This change required a new approach to lesson design. While rhythm is an important element to learn, there are other elements better suited as the entrance point to learning composition. After discussion with my industry mentor, the approach to student-driven versus teacher-driven lesson content adjusted to being balanced

between the two, rather than purely student choice as Lucy Green advocates for in Table 1; however, the principle of personalised learning remained. This reflects the practice of teachers in 2019.

The redrafted curriculum featured an approach to teaching composition that started with isolating layers in music; specifically the drums, bass, chords and melodies. The inspiration for this came from the Ableton Learn website. The opening page features a series of 16 boxes grouped into four columns entitled Drums, Bass, Chords, and Melodies. These boxes mimic Ableton's session view in that they can be played separately or together. In this way, a student can easily isolate a layer and hear it within the context of each other layer.

The first module incorporates five lessons. The first lesson introduces the overall concept of layers in music, then the following lessons break down each layer - Drums, Melody, Chords, and Bass - individually. The basic structure of each lesson incorporates time for knowledge to be transferred or acquired through the following ways: teacher explanation, attentive listening exercises (DeSantis, 2015, Green, 2001; Humberstone, 2015), and exercises that encourage student play. This approach allows for the incorporation of editing, tinkering and attentive listening in lessons, alongside the application of the learning principles in Table 1.

In particular, the Ministry's learning principle of "using knowledge to develop learning capacity" becomes emphasised when teaching the DAW. By teaching the elements that form the layers in compositions and showing how they are applied, this iteration emphasised equipping students with the tools to make

their own music. For example, lesson six, which focuses on Drums, features an exercise that shows how tempo relates to emotion. Understanding this relationship empowers students to translate the creative expression they are aiming for in their compositions.

The next cycle began with teaching the first lesson with a student in person.

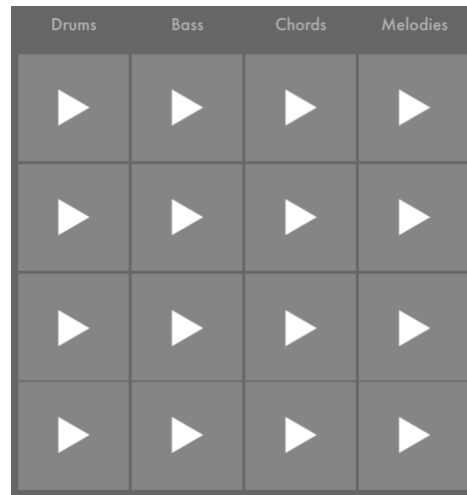
## **Cycle Two**

The student was a 12-year old girl who had an existing interest in music. She was a talented singer, had experimented with songwriting, and was taking guitar lessons at a beginner level. She also had music classes at her school, and an interest in pop and rock music.

The student and I had not met until the first lesson. For that reason, the initial section of the lesson was spent getting to know each other. This exercise proved influential for the following lessons for two reasons. First, we began to build a rapport together which was helpful as the lessons continued. Second, the student spoke about her interests and experience with regards to music.

Subsequently, this information influenced the first module's lesson content and therefore aimed to reflect and validate the student's place within the music world (Humberstone, 2017; Rose and Countryman, 2013). Thus, a period at the beginning of the first lesson was included to allow for the teacher and student to get to know each other.

The first lesson focuses on identifying four musical layers. It begins with time for play using the Ableton music boxes (See Figure 2), followed by listening exercises and a brief tour of the Ableton interface.



*Figure 2: The Ableton Learn Music Boxes*

Having already had some musical experience, the student was familiar with these musical layers. This gave her a head start with regards to the Ableton Learn boxes and the listening exercises. She enjoyed the activity, and was able to identify the chords and melodies layers within the songs we listened to.

Ableton Live was completely new, however, and the student appeared daunted when she first viewed the interface. On reflection and from discussions with my industry mentor and supervisor, this was likely because of the amount of information displayed by the Ableton Live interface when opening a session. In addition, the session loaded for lesson one displayed preloaded clips of various colours (see Figure 3).

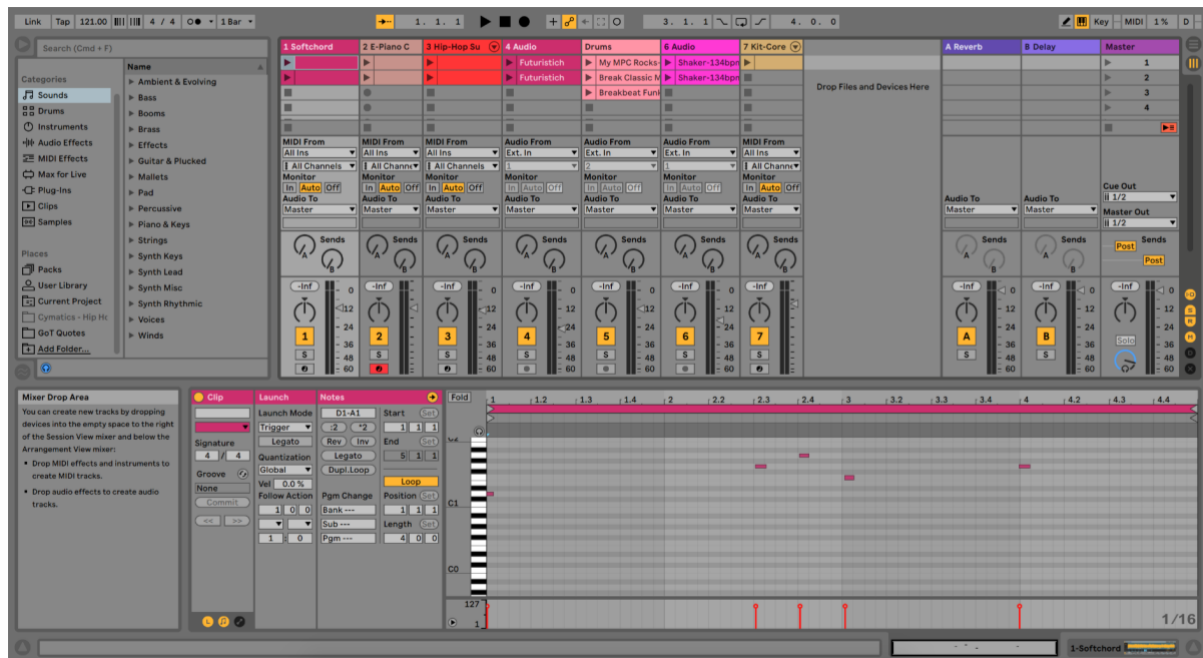


Figure 3: Lesson 1 Ableton session

For the following lessons, the Ableton Live interface was simplified in appearance by removing all windows that were not relevant to the lesson. This meant removing the in/out section, the return tracks, the reverb and delay sends, the info view and the browser. The result is a simpler and cleaner interface (See Figure 4).

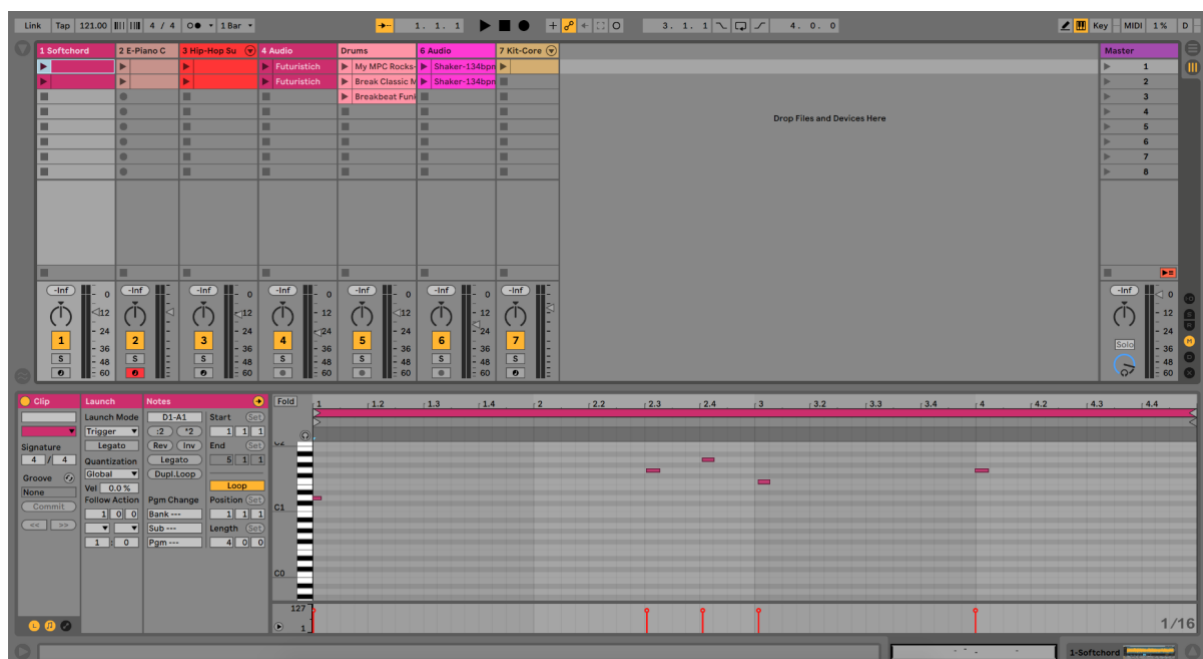


Figure 4: Lesson 1 Ableton session after uncluttering the interface

As a whole, this lesson weighed too heavily towards teacher explanation. It required the teacher to explain three sections of the interface, as well as the difference between audio and MIDI. On reflection, the teacher need only briefly explain the three sections of the interface.

The following lessons were designed to ensure a greater balance between time for explanation and play. However, this was not solved simply by sectioning off time in the lesson plans. A significant determining factor for a successful balance is the teacher adapting to the student's ability and needs as the lesson progresses and making adjustments accordingly. This will form a key part of the discussions and strategies for training the Discholars teachers.

Learning to adapt to the student's ability and needs reflects the Ministry of Education's principle of "personalised learning." One could build student-centred choices and student-driven activities into the lesson plans, but to deliver a lesson effectively requires the teacher to be adaptable to the student. Ensuring this strong pedagogical approach will continue to be an important aspect of the Discholars philosophy.

### **Cycle Three**

Lesson two focused on the drums. It begins with some listening exercises differentiating drums sounds, then an explanation of tempo before some time for play. It then explains how drum beats are broken down using MIDI, and finishes with figuring out the drum pattern for a song from the start of the lesson.

The song choices made were based on the student's interest in pop and rock music. This made it easy to choose drum sounds which were both acoustic, as in Ladyhawke's "My Delirium", and electronic, as in "Bury It" by CHVRCHES. The page "What are these sounds?"<sup>16</sup> on the Ableton Learn website inspired the choice to include sounds of both types.

During the listening exercises, the student described a floor tom as the "heavy drum" and an electronic cross stick sound as sounding "like a cowbell." I started to use these terms to describe the same sounds and this became a part of the student's personalised learning. This exercise reflects the second of Green's informal music learning principles of "learning by ear rather than reading music." Had the student been listening and following along with a video, a MIDI grid or notation, the information identifying where the sounds came from would have been evident.

The student's description also reflected Humberstone's assertion (2017) that the learning language surrounding music technology is being created by multiple generations together. While these particular sounds both already have names, it is in exercises like these where new terminologies can be created. This technique of being receptive to student terminologies will be passed on to all Discholars teaching staff.

This lesson's balance between explanation and play was improved, however it contained too much content for a 30-minute lesson. Having an adequate and

<sup>16</sup> Ableton Learn, "What are these sounds?" <https://learningmusic.ableton.com/make-beats/what-are-these-sounds.html> (Accessed: 11 October 2019).



balanced amount of content helps the teacher to be adaptable to the student's ability and needs. In practice, the tempo slider exercise (see Figure 5) took longer than anticipated and this resulted in the "1 E + A" explanation (See Figure 6) being passed over too quickly; ultimately, the lesson ran over time. This was also not helped by various technical issues that arose during the lesson.

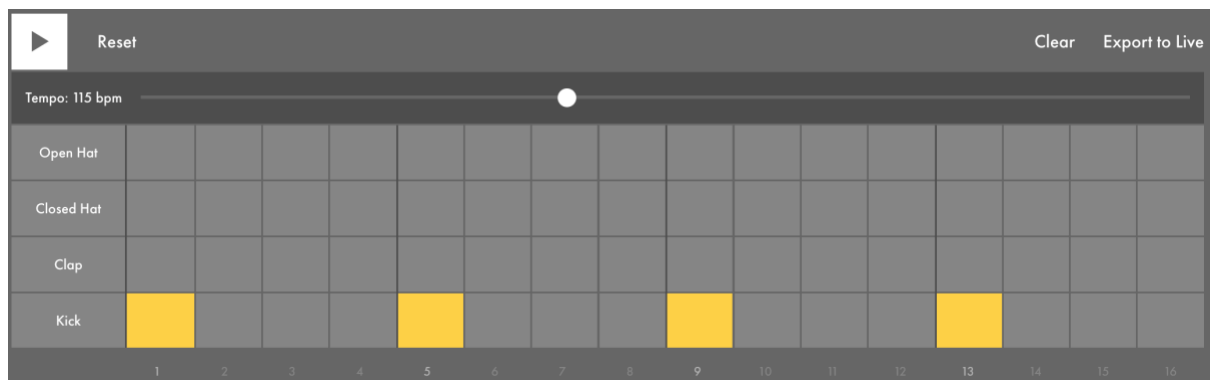


Figure 5: The tempo slider exercise. While listening to a song, the student was required to adjust the tempo slider to find the song's tempo<sup>17</sup>

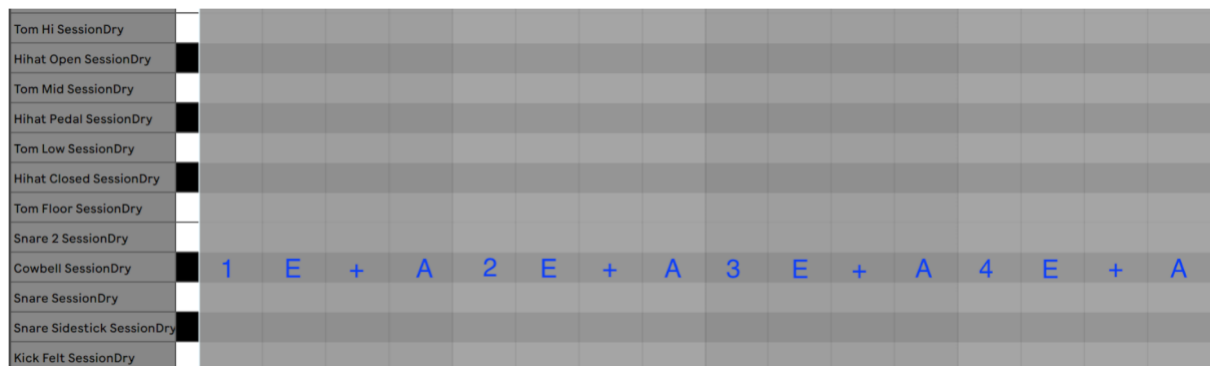


Figure 6: The counting phrase "1 E + A" represented in the piano roll

It is important that the lessons feel achievable and that the student feels like they are making progress. The student found the tempo slider exercise challenging, and I gave her plenty of encouragement to help her achieve it. It is likely that this encouragement and affirmation helped her to persist and complete the exercise;

<sup>17</sup> Ableton Learn, "Beat and tempo." <https://learningmusic.ableton.com/make-beats/beat-and-tempo.html> (Accessed: 27 October 2019).



this reflects the relationship between ego support and effective teaching spoken about by Frymier and Houser (2000). This technique was subsequently incorporated into the Discholars pedagogical approach.<sup>18</sup> The tempo slider exercise, however, was removed.

The homework set for this lesson proved to be too complicated. It required the student to complete too many tasks in order to complete the homework; for this example, she had to find the original song, work out its tempo, input that into Ableton, then click the pen icon, and design a new beat for the song. For the following lessons, the exercises were isolated to only include the part from which the student learns or develops a skill. The amount of lesson content was also reduced. Successfully achieving both of these aspects help towards the teacher delivering personalised learning.

## **Cycle Four**

Lesson three focuses on melody. The lesson begins with an explanation of pitch and an exercise to reinforce that. This is followed by some listening exercises, then time for play.

Due to the difficulty of the homework set, the first part of the lesson was spent completing it together. This meant that the lesson only got as far as the ‘is it melody or harmony?’ exercise (See Figure 7). Responding to the student in this way demonstrated my growth in adaptability as a teacher.

<sup>18</sup> Making the lessons challenging but achievable is particularly important from a business perspective, where at this early stage the student or their family may be deciding between continuing the lessons or not, or whether they would recommend Discholars to friends.

Sections	Link	Who Drives?
Review the previous week's work. Particularly the melodies.		Student
Pitch.	<p>Demonstration: show how there are high and low notes, and how they combine to make melody.</p> <p><i>"Melodies are patterns of single notes, often played separately. If you think of a famous tune like "Happy Birthday", the notes of that tune make up the melody."</i></p> <p><i>The difference between harmony and melody. Harmony being more than one note, while melody is often singular notes. A tune.</i></p>	Teacher
Is it melody or harmony?	<p><i>Using the midi keyboard installed on the computer keyboard (or using a guitar), play notes separately and together and get the student to identify which one is which.</i></p> <p><i>Examples:</i></p> <ol style="list-style-type: none"> <li><i>1. A chord</i></li> <li><i>2. An arpeggiated chord</i></li> <li><i>3. (Nice Dream) Chords</i></li> <li><i>4. My Mind Is Ramblin main phrase</i></li> </ol>	Student

Figure 7: Lesson 3 - Melody. Only this section of the lesson was completed

This lesson was the first to feature another instrument; a guitar. It was used to demonstrate the difference between melody and harmony, where for one example I input a melody on Ableton Learn and then for another I played a whole chord on the guitar. Using the guitar helped to contextualise in the real world what was happening in the DAW. Playing the chords and melodies live also encouraged the student to use her ear to differentiate the sounds, rather than it being visualised in front of her. This was another example of personalised learning for this student because of her guitar-playing experience. Incorporating physical instruments where relevant thus became a part of the Discholars pedagogical approach.

It is important to note that by focusing on melodies in lesson three, the lesson structure deviates from what the student may have expected. This

highlights the informal learning principle of “no predetermined sequence of skill development.” In the first lesson, the music boxes are set out from left to right as follows: drums, bass, chords, melodies. This reflects the drums as a foundation for a song, then rising through the frequency range, or up a stave, from bass to melodies. From a teaching perspective, it made sense to reverse the order down the frequency range to enable the bass to be taught last because the concept of a bass line is easier understood within the context of chords and melody. In this way, the bass becomes the element that ties the other four elements together.

Ironically, while this sequence may not appear predetermined to the learner, the sequence is intended. Having no predetermined sequence of learning can be frustrating because it can lead to wasting time learning aspects that may not reflect one’s stage of development. On reflection, this learning principle is not entirely appropriate for curriculum development because part of the reason for taking instrument lessons is to have a learning structure provided. This principle was applied instead within the lesson plans themselves by mixing up the order in which the exercises for explanation, listening and play took place.

## **Cycle Five**

The beginning of this lesson was spent looking at the homework set. The student was asked to use the Ableton Learn website to create a melody (See Figure 8). It appeared that she may have used tinkering (Bell, 2018; Hein, 2017) in her creativity, as the melody she created was not particularly structured. However, she

had clearly worked on it because it still had a clear musical beginning and end. I affirmed her work, and she was noticeably pleased.

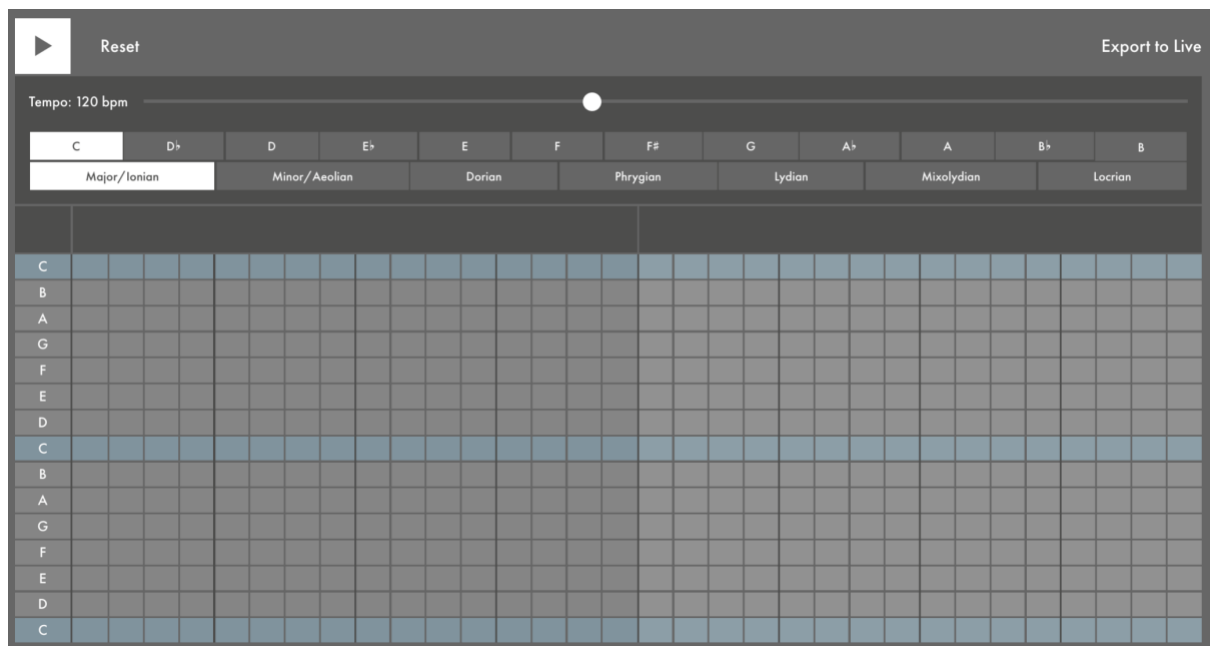


Figure 8: Lesson 3 - Homework: The student is required to create a melody by inputting notes into this grid<sup>19</sup>

This led to a change of approach to homework. Previously homework had been set to reinforce the concepts learnt in the lesson. This intention remained, however new homework tasks were designed for the student to complete towards writing their own song. This became rebranded as the “project”, rather than homework. The idea behind this rebrand was to avoid the stigma of homework and reframe the idea of work outside the classroom in a positive light. This was incorporated into the following lessons.

<sup>19</sup> Ableton Learn, “Play with melodies.” <https://learningmusic.ableton.com/make-melodies/play-with-melodies.html> (Accessed: 27 October 2019).

Lesson four focuses on chords. It features explanations of chords, triads, and chord progressions, before listening exercises that feature the chord progression from the earlier section. It finishes with time for play.

The element of chords proved to be a complex one to explain. As a result, too much of this lesson was spent on teacher explanation. It could have benefitted from including other tasks to break up the explanation.

However, this lesson also included use of the guitar and the student used her ear once again to identify a feature of the 1-4-5 chord progression. Unprompted, she described the relationship between chords one and five as “like a call and response.” By this stage she was using her ear to describe concepts in her own way.

This lesson was good experience for my development as a teacher. The lesson took place in a busier environment, where various people were regularly coming in and out of the lesson area, and it proved a challenge to maintain the student’s focus on the lesson. In this environment, it would have been beneficial to have more exercises that required the student to actively engage with the task at hand. As a teacher, I was especially attentive to the student and I demonstrated focus myself as much as possible; this learning was incorporated into the Discholars pedagogical approach. Ultimately, this lesson was completed. For the subsequent lessons, sections of explanation were separated out with either listening exercises or play.

## Cycle Six

Lesson five is the final lesson of the first module, and the final lesson taught in person for this research; it focuses on bass. The lesson ties together the previous three lessons through the bass, focusing on it with listening exercises in relation to drums, melody and chords in turn (See Figure 9). It finishes with a task for play.

Examples: Bass connecting to drum beat	<p><i>NB: Comparable to bad guy by Billie Eilish:</i></p> <ul style="list-style-type: none"> <li>(from 0:59) Gil Scott Heron &amp; Jamie xx - I'll Take Care Of U <a href="https://youtu.be/PaXslpx3MWY?t=59">https://youtu.be/PaXslpx3MWY?t=59</a></li> </ul> <p>Here, the bassline plays at the same time as 3 of the 4 drum beats per bar</p> <p>See ableton session.</p>
Melodic bassline	<p>Basslines can be melodic as well</p> <ul style="list-style-type: none"> <li>Around The World - Daft Punk: <a href="https://www.youtube.com/watch?v=yca6UsllwYs">https://www.youtube.com/watch?v=yca6UsllwYs</a></li> </ul> <p>See ableton session.</p>
Bass as root note	<p>While not always played exactly, the verse chords of this song are A-G-D (5-4-1 progression), and the notes played by the bass are also A-G-D</p> <ul style="list-style-type: none"> <li>Still Life - The Horrors: <a href="https://www.youtube.com/watch?v=sJQk0jDZx8o">https://www.youtube.com/watch?v=sJQk0jDZx8o</a></li> </ul> <p>See ableton session.</p>

Figure 9: The three listening exercises which are integrated into summaries of the previous three lessons

The song choices for this lesson's listening exercises presented a challenge.

Previously, choices had been based on the student's interest in pop and rock music. However, the bass is less prominent in these genres. On reflection, some genres are better suited to highlighting specific topics, so the listening choices for this lesson were expanded to include electronic dance songs. This proved to be beneficial for exposing the student to new styles of music, and for encouraging the

Ministry of Education's second principle of equity, diversity and inclusivity. It also helped to provide context on the music the student writes. Hereafter, the Discholars pedagogical approach was adjusted to enable the teacher to introduce the student to new genres where appropriate to the lesson content.

By the completion of this module, the lessons found the balance required for a good lesson; for example, the balance between too much and too little content, or between passive and active exercises. Also, I had progressed as a teacher to offer adequate amounts of encouragement, and to be able to adapt my teaching to the student's ability and needs and other external factors. These learnings will be incorporated into the training of Discholars teachers.

The effectiveness of these lessons was measured on the time spent on tasks and whether the student had adopted the skills taught by the end. By the completion of the module, the student had begun to identify attributes in her favourite songs that she had previously identified in listening exercises. She also began using Ableton Live for her own songwriting, separate to our lessons. These lessons, and the changes made to them, proved to be a success.

## **Cycle Seven**

A workshop was created in cycle seven for teaching how to edit a sample in a digital audio workstation. The workshop was taught in various situations, whether teaching to teachers or students, or for longer or shorter periods. At its core, it featured a listening exercise to compare a sample to its origin, a period of teacher

explanation of simple sample editing techniques, and time for play. The longer versions feature more listening exercises and discussion questions.

The purpose of creating a one-off workshop was partly for use as a selling point for the business. Signing up for five to nine lessons over three months is a significant commitment for a person or school that may be new to the service or music technology. Workshops require much less commitment in that regard.

The workshops featured more time for play compared to the regular lessons because there was a longer time period allocated, and because it allowed the tutor more time to check in on each student in attendance. In some cases, students worked in groups and taught each other aspects that they did not initially understand fully. This reflects Green's informal learning principle of "learning and self-teaching instruments in friendship groups" (See Table 1).

The workshops taught to teachers featured discussion questions (See Figure 10). On many occasions, the teachers remained silent when first posed with the questions. It proved helpful to prompt them with possible answers in response to the discussion questions; often, this then ignited new discussions. This was another aspect that was integrated into the Discholars pedagogical approach.



## DISCUSSION

*How can we emphasise sound as a form of creative expression?*



Figure 10: An example of a question posed to teachers for discussion

### Cycle Eight

Cycle eight focused on creating the second module of lessons. This module features four lessons that each focus in more detail on the same layers from module one. Combining the two modules adds to nine lessons in total. Creating nine was intentional because New Zealand school terms last for ten weeks. This then allows for one week where a lesson may not take place, for example for a school event or student sickness.

The second module employs the learnings from cycles two to six. The lessons are divided between listening exercises, explanation, and play, in varying sequences. They allow for the Discholars pedagogical approach to be employed by being moderate in length so that the teacher can adapt to their student, and they allow space for other instruments to be used and for concepts to be learnt by ear. They also have space for the teacher to change the listening choices to personalise the lesson towards the student's music interests.



## Cycle Nine

This cycle featured the presentation of a workshop at the Music Educators New Zealand Aotearoa conference in Christchurch in October 2019, and the peer review I received from it. The workshop presented was developed during cycle seven. It was an extended version which included discussion questions and extra listening exercises.

Teachers commented on the uniqueness of approach with regards to the possibilities technology provides for evoking emotion. During the workshop, a listening exercise involving the song *No Sleep* by Skepta demonstrated how effects were used to evoke a feeling of slumber. Later, volunteers completed an exercise drawn from lesson six that demonstrated the relationship between tempo and emotion (See Figure 11). In this exercise, the volunteer is prompted to create an emotion using one beat, one chord progression, and a tempo of their choice.

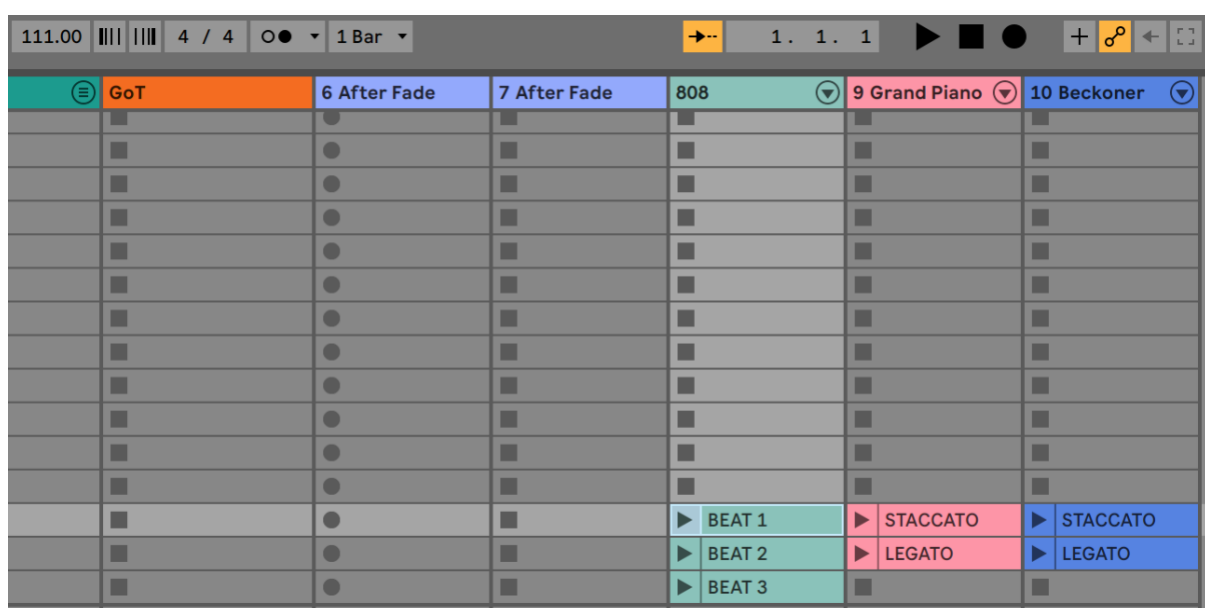


Figure 11: MENZA workshop presentation. This exercise demonstrated the relationship of tempo to emotion

This exercise integrated numerous learning principles from Table 1. First, it was personalised because the learner created the emotion as it felt appropriate to them. Second, it heavily relied on learning by ear as they were receiving immediate feedback to every change made. Third, it mimicked a performance and in that way, the exercise integrated listening, performing and improvising into one activity. This became a key feature of Discholars' pedagogical approach.

## **Summary**

The Discholars curriculum takes a pluralistic approach (Humberstone, 2017) by incorporating informal and formal music education practices. It initially focuses on teaching composition, which will later integrate with performance and improvisation when electronic instruments are incorporated into the lessons. By focusing on tools used to make music the students listen to (Bell, 2015; The Nielsen Company, 2018), and incorporating songs for listening exercises that are personalised to reflect the music each student likes, the Discholars curriculum aims to validate its students' place within music education (Humberstone, 2017; Rose and Countryman, 2013).

## Conclusion

This exegesis has explored the development of a curriculum that teaches music through a digital audio workstation. The curriculum was designed for and influenced by the New Zealand market. New Zealand secondary music education began based on the formal music education principles employed in the United Kingdom. Since the 1990s, it has grown to include informal music learning principles and future-focused learning strategies alongside the formal music education principles that exemplified the sector in its infancy. As a result, the Discholars curriculum incorporates both styles; it does so by including sections that feature the teacher explaining a concept, which is a formal learning practice, and sections that include listening exercises and student play, which are informal learning practices.

The lessons were developed based on approaches outlined under Existing Education Methods and New Musical Literacies, then tested in a real-world scenario. They were then refined based on this experience. Eventually, they found a good balance between informal and formal learning sections, and too much and too little lesson content. The lessons were also designed to be personalised for each student by choosing songs that the student likes for listening exercises and, where applicable, incorporating instruments the student already has experience with. The student that participated in this research ended up adopting practices from the lessons in her own music-making practice.

Developing the Discholars pedagogical philosophy became an important aspect to the success of this research. Understanding how to adapt to the student's ability and needs, and how to effectively deliver lessons then fed into my curriculum design. I learnt how much content was enough for a 30-minute lesson, and how to listen for and apply terminology that the student used. On one hand, developing these skills was critical to applying the learning principles identified in Table 1. On the other, they will allow me to transfer what I have learnt to new teachers that I employ and ensure that a strong pedagogical approach is applied to each lesson taught, no matter the teacher.

Ultimately, teaching lessons that emphasise the studio as compositional tool help to humanise technology. Music technology can be daunting when seen as a functional tool for representing sound. However, taking lessons help to demystify the instrument. Furthermore, students learn that the DAW in particular is able to enhance compositions rather than merely represent them. This means that one can master its functionalities in order to enhance the portrayal of emotion in their composition.

The flow-on effect of this phenomenon could be that we improve our ability to talk about music. If we understand better the emotion in music and how to make it, we could more accurately describe it in our daily lives. To have a greater grasp of one's ability to express oneself is perhaps the most profound skill development the Discholars curriculum can offer.

There are many positives to the music education offered in New Zealand. The teaching is pluralistic, and there are opportunities for music technology. However, these opportunities have not fully developed to the point where learning reflects the world students live in, or where students are prepared for tertiary study. The Discholars curriculum is designed to assist with both of these aspects. It aligns with the existing music curriculum, but innovates to incorporate popular music technologies and the music that students listen to. It also contextualises music technology as a means for human expression. In this way, the Discholars curriculum is poised to empower students to express themselves musically.

## Glossary

**Assessment Standards:** Students attain assessment standards towards their NCEA qualification. Assessment standards specify what a student needs to know or achieve in order to meet the standard. They come in two forms:

- **Unit standards**, which are competency based, and
- **Achievement standards**, which are New Zealand curriculum based.

**ITM - Itinerant Teacher of Music:** An Itinerant Teacher of Music is an instrument teacher who visits a school once or twice a week to deliver lessons in their chosen instrument. Otherwise known as a “visiting” or “peripatetic” teacher.

**LAT – Limited Authority to Teach:** A Limited Authority to Teach is a temporary teaching permit granted by the Teaching Council of Aotearoa New Zealand to persons who cannot be registered and certificated as a teacher. It enables ITMs to teach in schools.

**MENZA – Music Educators New Zealand Aotearoa:** MENZA is the national professional body that represents the interests of all music education sectors in New Zealand.

**NCEA – National Certificate of Educational Achievement:** NCEA is the official secondary school qualification in New Zealand.

**NZQA – New Zealand Qualifications Authority:** NZQA administers the NCEA for secondary school students.

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# Appendices

## Appendix A – Low-Risk Ethics Notification



Date: 08 April 2019

Dear Callum Campbell

Re: Ethics Notification - 4000020867 - Discholars - Creative Curriculum Development and Testing

Thank you for your notification which you have assessed as Low Risk.

Your project has been recorded in our system which is reported in the Annual Report of the Massey University Human Ethics Committee.

The low risk notification for this project is valid for a maximum of three years.

If situations subsequently occur which cause you to reconsider your ethical analysis, please contact a Research Ethics Administrator.

Please note that travel undertaken by students must be approved by the supervisor and the relevant Pro Vice-Chancellor and be in accordance with the Policy and Procedures for Course-Related Student Travel Overseas. In addition, the supervisor must advise the University's Insurance Officer.

**A reminder to include the following statement on all public documents:**

*"This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher(s) named in this document are responsible for the ethical conduct of this research."*

*If you have any concerns about the conduct of this research that you want to raise with someone other than the researcher(s), please contact Professor Craig Johnson, Director - Ethics, telephone 06 3569099 ext 85271, email [humanethics@massey.ac.nz](mailto:humanethics@massey.ac.nz)."*

Please note, if a sponsoring organisation, funding authority or a journal in which you wish to publish requires evidence of committee approval (with an approval number), you will have to complete the application form again, answering "yes" to the publication question to provide more information for one of the University's Human Ethics Committees. You should also note that such an approval can only be provided prior to the commencement of the research.

Yours sincerely

Professor Craig Johnson  
Chair, Human Ethics Chairs' Committee and Director (Research Ethics)

## Appendix B – Criminal Conviction Check



EX 11049 | Auckland | New Zealand  
T: 04 918 8800  
E: [criminalrecord@justice.govt.nz](mailto:criminalrecord@justice.govt.nz) | W: [www.justice.govt.nz](http://www.justice.govt.nz)

07/05/2019

Callum James Campbell

[callum@discholars.com](mailto:callum@discholars.com)

Wellington 6021

Dear Callum Campbell

**Request for a conviction check for CALLUM CAMPBELL**

**MOJ request ID: 6191565**

Thank you for your request of 05/04/2019.

As at 07/05/2019 you have no convictions based on the following information you provided:

Name: CALLUM JAMES CAMPBELL  
Date of birth: 18/02/1988  
Gender: M

Yours sincerely

Criminal Records Unit

For more information about conviction checks, please go to [www.justice.govt.nz/criminal-records](http://www.justice.govt.nz/criminal-records)

## Appendix C – Creative Curriculum Development & Testing Information Sheet

# Creative Curriculum Development & Testing Discholars

### Information Sheet

**What it's about:** I have created lessons to teach music through the software programme Ableton. These lessons are for the purpose of testing out what I have created.

**Some more detail:** These lessons are designed to teach music composition. First, we start by learning about the layers in a song, then each week afterwards we focus on one layer. The layers are the drums, melody, chords, and bass. It is hoped that at the end you will understand a little about how music is made, and how you could make it using Ableton.

Ableton is a digital audio workstation (DAW) that is used to create and record music. It is essentially a recording studio on your computer; indeed, it's commonly used in professional recording studios around the world. In its own way, it is also an instrument like a guitar or a piano is. More about Ableton will reveal itself as the lessons continue.

**How many?** 5 lessons, for 30 minutes each. I will bring all of the required equipment for the lesson, so you won't need to bring anything. I recommend you download the free trial version of Ableton after the first class, but I will provide a link for that then.

**Where?** Wherever – we can set up anywhere with an internet connection. Most lessons will likely take place in your home.

**Who am I?** I'm Callum. I'm a Master's student at Massey University, and these lessons are contributing towards completing my Master's degree. I have a long-held love of music. I took drum lessons right through high school, and took music as a class at that time too. After that I taught myself the bass and the guitar, joined a band and moved to Germany with my band, recorded my own short album, then came back to Wellington to study the music industry. Feel free to ask me any questions you like.

**Formal procedures:** Through the Massey University Ethics Process, this research has been deemed low risk. It has been checked and developed in collaboration with my Master's Supervisor Bridget Johnson. Should you have any questions or concerns please don't hesitate to contact Bridget directly on [b.d.johnson@massey.ac.nz](mailto:b.d.johnson@massey.ac.nz).

I have a clear criminal conviction record, which is available to view on request.

## Appendix D – Individual Participant Consent Form

# Creative Curriculum Development & Testing Discholars

### Individual Participant Consent Form

I have read the Information Sheet and have had the details of the study explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I agree to my age and gender being recorded. I understand that the lessons continue with my consent only and that I can stop them at any time.

I agree to participate in this study under the conditions set out in the Information Sheet.

Participant Signature:	_____	Date:	_____
Full name (printed):	_____		
Parent/Guardian Signature:	_____	Date:	_____
Full name (printed):	_____		